

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A magnetic recording head for writing data onto a magnetic recording medium, the head comprising:
 - a first pole and a second pole separated by a gap;
 - a coil structure traversing through the gap;
 - a waveguide extending through and within the gap, in a plane distinct from the first pole ~~plane~~ and the second pole ~~plane~~; and
 - a closure partially connecting the first pole and the second pole disposed proximate near the a back gap of the first pole and the second pole, the closure including a first closure and a second closure split apart from each other whereby the waveguide extending therebetween without bending, turning, or extending within the first pole or the second pole so as to decrease a magnetic reluctance and increase a write efficiency of the recording head.
2. (Currently Amended) The ~~device~~ head of claim 1 ~~wherein the closure is split and wherein the waveguide travels through the a split gap between the first closure and the second closure such that a light source can travel in a straight path from an entrance of the waveguide to the a write gap area of the head.~~
3. (Currently Amended) The ~~device~~ head of claim 2 wherein the light is transduced onto the magnetic recording medium.
4. (Currently Amended) The ~~device~~ head of claim 1 wherein the waveguide is disposed between the first pole and the coil ~~layer~~ structure.
5. (Currently Amended) The ~~device~~ head of claim 1 wherein the waveguide is disposed between the second pole and the coil ~~layer~~ structure.

6. (Currently Amended) A load beam assembly for transducing data with a concentric track of a magnetic recording medium, the assembly comprising:

a slider including an air-bearing surface;

a transducing head mounted on a trailing face of the slider, the transducing head having a first pole and a second pole separated by a gap; and

~~a light source attached near the trailing face; and~~

a waveguide extending generally straight down from near an upper edge to near a lower edge of the trailing face, ~~such that the waveguide is being~~ disposed in a distinct plane between the first and second poles and extending within the gap without bending, turning, or extending within the first pole or the second pole so as to decrease a magnetic reluctance and increase a write efficiency of the transducing head.

7. (Currently Amended) The ~~device~~ assembly of claim 6 wherein ~~the~~ a light source is attached near the trailing face ~~is a solid-state laser diode.~~

8. (Currently Amended) The ~~device~~ assembly of claim 6 further including a closure partially connecting the first pole and the second pole ~~near the~~ a back gap of the first pole and the second pole, the closure including a first closure and a second closure split apart from each other whereby the waveguide extending therebetween without bending, turning, or extending within the first pole or the second pole so as to decrease a ~~the~~ magnetic reluctance of the ~~recording~~ transducing head.

9. (Cancelled)

10. (Currently Amended) The ~~device~~ assembly of claim 6 wherein the transducing head further includes a transducing coil, the transducing coil extending between the first and the second poles.

11. (Currently Amended) The ~~device~~ assembly of claim 6 ~~7~~ wherein the ~~laser~~ light source includes a ~~laser~~ light emitting face, and further wherein the ~~laser~~ light emitting face is disposed generally opposing an upper face of the slider.

12. (Currently Amended) The ~~device~~ assembly of claim 7 wherein ~~the~~ a power output of the ~~solid-state laser diode~~ light source is sufficient to cause heating of a portion of the magnetic recording medium located near a write gap to a Curie temperature of the ~~heat-assisted~~ magnetic recording medium.

13. (Currently Amended) The ~~device~~ assembly of claim 6 ~~7~~ further including a flexure adapted for supporting the slider and the light source.

14. (Currently Amended) The ~~device~~ assembly of claim 13 further including a silicon bench assembly for changing a direction of a light beam exiting the light source.

15. (Currently Amended) The ~~device~~ assembly of claim 6 wherein ~~the~~ a light source is attached to the trailing face, such that a face of the light source is in contact with the trailing face.

16. (Currently Amended) A method of fabricating a head/load beam assembly for writing data to a concentric track of a magnetic recording medium, the method comprising:
providing a slider having an air bearing surface;
forming a transducing head on a trailing edge of the slider, the transducing head including a pole having a split back gap; and
forming a waveguide on the trailing face of the slider, the waveguide extending through the split back gap, without bending, turning, or extending within the pole so as to decrease a magnetic reluctance of the transducing head; and
~~mounting a laser source near the trailing edge of the slider.~~

17. (Currently Amended) The method of claim 16 further comprising providing a light source near the trailing edge of the slider, wherein the ~~laser~~ light source ~~is a laser diode having~~ has a power output from about 1 to about 25 mW.

18. (Currently Amended) The method of claim 16 further comprising providing a light source near the trailing edge of the slider, wherein the ~~laser~~ light source includes a light emitting face, and ~~further~~ wherein the light emitting face is in optical communication with a proximal end of the waveguide.

19. (Original) The method of claim 16 further comprising providing a flexure for supporting the slider.

20. (Currently Amended) The method of claim 16 further comprising providing a transducing coil, wherein the waveguide extends in a distinct plane between the pole and a the transducing coil.